A COMBINATORIAL APPROACH FOR SUPERVISED NEURAL NETWORK LEARNING

Abstract of the Disclosure

A technique for machine learning, such as supervised artificial neural network learning includes receiving data and checking the dimensionality of the read data and reducing the dimensionality to enhance machine learning performance using Principal Component Analysis methodology. The technique further includes specifying the neural network architecture and initializing weights to establish a connection between read data including the reduced dimensionality and the predicted values. The technique also includes performing supervised machine learning using the specified neural network architecture, initialized weights, and the read data including the reduced dimensionality to predict values. Predicted values are then compared to a normalized system error threshold value and the initialized weights are revised based on the outcome of the comparison to generate a learnt neural network having a reduced error in weight space. The learnt neural network is validated using known values and is then used for predicting values.

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